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WesternGeco Seismic Holdings Limited % Marks & Clerk 4220 Nash Court Oxford Business Park South OXFORD

Your Reference: AMS.P52461GB Application No: GB 0228484.2

11 April 2003

OX4 2RU

The Patent Office Patents Directorate

Concept House Cardiff Road, Newport South Wales NP10 8QQ

Examiner: 01633 814459

†E-mail: robert.mumford@patent.gov.uk

Switchboard: 01633 814000

Fax: 01633 814444 Minicom: 08459 222250 DX 722540/41 Cleppa Park 3 http://www.patent.gov.uk

Dear Sirs

Patents Act 1977: Search Report under Section 17(5)

I enclose two copies of my search report and a copy of the citation.

Plurality of invention

I consider that your application relates to more than one invention as follows:

- (1) A system for determining a propagation time delay as claimed in claims 1 23.
- (2) A library system as claimed in claims 24 42.

My search report relates to the first invention only. If you want the other invention searched, you should file a further Patents Form 9/77.

Publication

I estimate that, provided you have met all formal requirements, preparations for publication of your application will be completed soon after 27 April 2004. You will then receive a letter informing you of completion and telling you the publication number and date of publication.

Amendment/withdrawal

[†]Use of E-mail: Please note that e-mail should be used for correspondence only.







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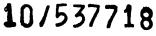
11 April 2003

If you wish to file amended claims for inclusion with the published application, or to withdraw the application to prevent publication, you must do so before the preparations for publication are completed. No reminder will be issued. If you write to the Office less than 3 weeks before the above completion date, please mark your letter prominently: "URGENT - PUBLICATION IMMINENT".

Yours faithfully

Robert C Mumford

Examiner











Application No:

GB 0228484.2

Claims searched: 1 - 23

Examiner: Date of search:

Robert C Mumford 10 April 2003

Patents Act 1977: Search Report under Section 17

Documents considered to be relevant:

Category	Relevant to claims	Identity of document and passage or figure of particular relevance		
Α	<u>-</u>	FR 002772931 A	(GEOPHYSIQUE CIE)	

Categories:

- X Document indicating lack of novelty or inventive step
- Occument indicating lack of inventive step if combined with one or more other documents of same category.
- & Member of the same patent family

- A Document indicating technological background and/or state of the art.
- P Document published on or after the declared priority date but before the filing date of this invention.
- E Patent document published on or after, but with priority date earlier than, the filing date of this application.

Field of Search:

Search of GB, EP, WO & US patent documents classified in the following areas of the UKCv:

GlG

Worldwide search of patent documents classified in the following areas of the IPC?:

G01S, G01V

The following online and other databases have been used in the preparation of this search report:

Online WPI, EPODOC, JAPIO

O EPODOC / EPO

PN - FR2772931 A 19990625

PD - 1999-06-25

PR - FR19970016497 19971224

OPD - 1997-12-24

- System for monitoring the placement of a seismic cable, from a ship, onto the sea bed.

- The seismic cable includes a number of acoustic transmitters spread along it each of which transmits an identifiable acoustic signal. The system includes a floating network having at least three acoustic receiver units (T,B,Q), with means for knowing the position of these units (T,B,Q) with respect to the ship (V). The system has also means for transmitting to a processing unit the time corresponding to receipt, by the receiver units (T,B,Q), of signals from the acoustic cable transmitters (P). The processing unit includes means for calculating, from these time and position values—the position of the acoustic transmitters and therefore the trajectory—of the cable as it is unrolled from the ship.

IN - BOUCQUAERT FRANCOIS; LECOQ FREDERIC

PA - GEOPHYSIQUE CIE GLE (FR)

EC - G01V1/38C

IC - G01V1/38

CT - US5497356 A [Y]; EP0308222 A [A]; EP0267840 A [A]; FR2620536 A [A]; XP000312715 A [Y]

CTNP- [Y] BELL B M ET AL: "NONLINEAR KALMAN FILTERING OF LONG-BASELINE, SHORT-BASELINE, GPS, AND DEPTH MEASUREMENTS"

PROCEEDINGS OF THE ASILOMAR CONFERENCE ON SIGNALS, SYSTEMS

AND COMPUTERS, PACIFIC GROVE, NOV.4 - 6, 1991, vol. 1, no.

CONF. 25, 4 novembre 1991, pages 131-136, XP000312715 CHEN R R

O WPI / DÉRWENT

- System for monitoring the placement of a seismic cable, from a ship, onto the sea bed.
- PR FR19970016497 19971224
- PN FR2772931 A1 19990625 DW199938 G01V1/38 012pp
- PA (GEOP-N) CIE GEN GEOPHYSIQUE
- IC G01V1/38

none

AB

IN - BOUCQUAL F; LECOQ F



- FR2772931 NOVELTY - The seismic cable includes a number of acoustic transmitters spread along it each of which transmits an identifiable acoustic signal. The system includes a floating network having at least three acoustic receiver units (T,B,Q), with means for knowing the position of these units (T,B,Q) with respect to the ship (V). The system has also means for transmitting to a processing unit the time corresponding to receipt, by the receiver units (T,B,Q), of signals from the acoustic cable transmitters (P). The processing unit includes means for calculating, from these time and position values the position of the acoustic transmitters and therefore the trajectory of the cable as it is unrolled from the ship.

- USE For monitoring seismic cable laying on sea bed.
- ADVANTAGE Enables the following in real time of seismic cable laying in deep water.
- DESCRIPTION OF DRAWING(S) The drawing shows a pictorial view of the cable laying operation
- receivers T.B.Q
- transmitters P
- ship V
- (Dwg.1/1)

OPD - 1997-12-24

AN - 1999-446623 [38]

none none none